

Final Evaluation Findings

Old Woman Creek National Estuarine Research Reserve

June 1998 – July 2003



Office of Ocean and Coastal Resource Management
National Ocean Service
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I. EXECUTIVE SUMMARY

A. OVERVIEW

The Coastal Zone Management Act (CZMA) of 1972, as amended, established the National Estuarine Research Reserve System (NERRS). Sections 312 and 315 of the CZMA require the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic performance reviews or evaluations of federally approved National Estuarine Research Reserves (NERR). The most recent evaluation of the Old Woman Creek National Estuarine Research Reserve (OWCNERR) examined the operation and management of the reserve from June 1998 through July 2003. The Ohio Department of Natural Resources (ODNR) administers OWCNERR.

This document describes the evaluation findings of the Director of NOAA's Office of Ocean and Coastal Resource Management (OCRM) with respect to OWCNERR during the review period. The fundamental conclusion of this evaluation is that ODNR is successfully implementing and enforcing its federally approved NERR. The recommendations made by this evaluation appear in **boxes** and follow the relevant section of findings. Two types of recommendations are possible: (1) Necessary Actions address programmatic requirements and *must* be implemented by the indicated date; and (2) Program Suggestions describe actions that NOAA believes ODNR should take to improve the program but that are not currently mandatory. Program Suggestions that are reiterated in consecutive evaluations due to continuing problems may be elevated to Necessary Actions. If no dates are indicated, ODNR is expected to address the recommendations by the time of the next §312 evaluation, which will occur approximately three to five years following the release of the final evaluation findings. This document contains four Program Suggestions and no Necessary Actions. NOAA will consider the findings made by this evaluation when making future financial award decisions regarding OWCNERR.

B. SUMMARY OF ACCOMPLISHMENTS

The evaluation team documented a number of OWCNERR's accomplishments during the review period. These include:

Issue Area	Accomplishment
Staff	OWCNERR's stature as a model reserve program is a direct result of its excellent staff. NOAA commends the recently retired Reserve Manager for his outstanding work both locally and nationally. NOAA also commends ODNR for hiring an Assistant Manager prior to the departure of the Reserve Manager.
Position	The reserve is well positioned in the organizational structure of ODNR to accomplish its mission. NOAA commends DNAP's Acting Chief on her invaluable support for OWCNERR.
Finance	Financial management of the reserve has been very strong.

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Advisory Council	OWCNERR's Advisory Council has done an excellent job assisting the reserve in furthering its mission and increasing its visibility.
Management Plan	NOAA applauds OWCNERR for completion of its revised management plan.
Facilities	OWCNERR's renovated Visitors' Center and new, long-term use dormitory are premium green facilities that provide an excellent opportunity to showcase efforts towards achieving sustainable coastal communities.
Visibility	OWCNERR has strong public visibility.
External Programs	OWCNERR has worked collaboratively with OCMP and Ohio Sea Grant on a variety of programs and activities.
Ties with Universities	OWCNERR's Research and Monitoring Program has excellent ties with universities throughout Ohio. Researchers choose the reserve as a research site not only because OWCNERR is an interesting estuary scientifically, but also for the superior facilities and services available to them at the reserve.
Research and Monitoring Program Visibility	OWCNERR's Research and Monitoring Program has strong visibility.
System-wide Monitoring Program	OWCNERR's Research and Monitoring Program is fulfilling its SWMP requirements by successfully implementing the program and submitting all data to the Centralized Data Management Office.
Site Profile	OWCNERR's site profile is extremely well written and comprehensive.
Graduate Research Fellowships	OWCNERR's Research and Monitoring Program has attracted strong GRFs both to the fellowship program and to the reserve.
Coastal Decision-maker Workshops	OWCNERR's Education and Outreach Program has offered outstanding CDMWs to a wide variety of audiences.
Coastal Training Program	OWCNERR's Education and Outreach Program has collaborated with OCMP and Ohio Sea Grant during the initial development phase of the CTP. It has also produced a strong coastal training market analysis and needs assessment.
Special Projects	OWCNERR's Education and Outreach Program has initiated and facilitated innovative special projects that employ unique partnerships and methods to address significant coastal resource issues while raising the public's awareness of the reserve.
Stewardship Program	OWCNERR made progress in developing its Stewardship Program during the review period.

C. SUMMARY OF RECOMMENDATIONS

In addition to the accomplishments listed above, the evaluation team identified several areas where the program could be strengthened. Recommendations are all in the form of Program Suggestions. The evaluation team did not identify any Necessary Actions. Areas for program improvement include:

#	Program Suggestions
1	Given that NOAA considers reserve staff attendance at Reserve System national meetings to be of significant importance to include it as a condition of each operations grant and to provide federal funding for the travel, NOAA encourages ODNR to continue to authorize OWCNERR staff travel to these meetings.
2	NOAA strongly encourages OWCNERR to foster increased linkages between its Research and Monitoring Program and its Education and Outreach Program.
3	Given that reserve volunteers historically have provided significant support for reserve operations and programming, NOAA encourages OWCNERR to reinvigorate its Volunteer Program as soon as practicable.
4	NOAA recommends that OWCNERR consider expanding its Stewardship Program by: (1) examining potential ways to increase the amount of time that the Stewardship Coordinator is able to devote to the reserve; and (2) engaging a part-time employee or volunteers to develop the Stewardship Program's human interaction element through stewardship outreach activities.

II. PROGRAM REVIEW PROCEDURES

A. OVERVIEW

NOAA began its review of OWCNERR in May 2003. The §312 evaluation process involves four distinct components:

- An initial document review and identification of specific issues of particular concern;
- A site visit to Ohio including interviews and a public meeting;
- Development of draft evaluation findings; and
- Preparation of the final evaluation findings, partly based on comments from the state regarding the content and timetables of recommendations specified in the draft document.

B. DOCUMENT REVIEW AND ISSUE DEVELOPMENT

The evaluation team reviewed a wide variety of documents prior to the site visit, including: (1) the federally approved Environmental Impact Statement and program documents; (2) financial assistance awards and work products; (3) semi-annual performance reports; (4) official correspondence; and (5) relevant publications on natural resource management issues in Ohio.

Based on this review and on discussions with OCRM's Estuarine Reserves Division, the evaluation team identified the following priority issues:

- The manner in which OWCNERR meets individual program goals;
- The manner in which OWCNERR coordinates with other federal, state and local agencies and programs;
- The status of OWCNERR facilities and resource management;
- The status and effectiveness of OWCNERR staffing and programs, and participation in national research, monitoring and education programs;
- The visibility of OWCNERR research, monitoring and education programs;
- The status of OWCNERR's management plan revision; and
- The manner in which OWCNERR has addressed the recommendations contained in the §312 evaluation findings released in 1998.

C. SITE VISIT TO OHIO

Notification of the scheduled evaluation was sent to ODNR, OWCNERR, relevant federal environmental agencies, members of Ohio's Congressional Delegation and regional newspapers. In addition, a notice of NOAA's "Intent to Evaluate" was published in the *Federal Register* on June 25, 2003.

The site visit to Ohio was conducted on August 12-15, 2003. Ms. Rosemarie McKeeby, Evaluation Team Leader, OCRM National Policy and Evaluation Division; Ms. Nathalie Peter, OWCNERR Specialist, OCRM Estuarine Reserves Division; and Mr. David Ruple, Manager, Grand Bay NERR, composed the evaluation team.

During the site visit, the evaluation team interviewed OWCNERR staff, senior ODNR and other state officials, coastal researchers, environmental educators, civic group representatives and private citizens. Appendix B lists people and institutions contacted during this review.

As required by the CZMA, NOAA held an advertised public meeting on August 12, 2003, at 7:00 p.m., at the OWCNERR Visitors' Center, 2514 Cleveland Road East, Huron, Ohio. The meeting gave members of the general public the opportunity to express their opinions about the overall operation and management of OWCNERR. Appendix C lists individuals who registered at the meeting.

The crucial support of OWCNERR staff with the site visit planning and logistics is gratefully acknowledged.

III. RESERVE PROGRAM DESCRIPTION

A. THE NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

The CZMA of 1972, as amended, established a system of NERRs that are funded cooperatively by OCRM and the host states or territories, which also manage the reserves. The NERRS has two primary missions: (1) to establish and maintain, through federal and state cooperation, a national system of reserves representative of various biogeographic regions in the U.S.; and (2) to conduct long-term research, educational and interpretive activities in support of national coastal zone management priorities.

Toward those missions, reserve sites are selected to represent the range of biogeographic regions, estuarine types and coastal management challenges occurring throughout the Nation. To date, NOAA has designated 26 NERRs that collectively protect more than one million acres of estuarine land and water. Two additional sites currently are in various stages of the designation process.

B. THE OLD WOMAN CREEK NATIONAL ESTUARINE RESEARCH RESERVE

1. Reserve Site Description

OWCNERR was designated as the seventh NERR in 1980. The reserve is located on the south-central shore of Lake Erie at the mouth of Old Woman Creek, approximately three miles east of Huron, Ohio, in Erie county. The smallest reserve in the NERRS, the 573-acre OWCNERR serves as a field laboratory where scientists can study naturally-functioning systems and where students and the general public can learn about estuarine ecology in a natural setting.



American water lotus at the reserve.

OWCNERR is the only Great Lakes freshwater estuary in the NERRS and encompasses significant estuarine, lacustrine and terrestrial habitats, including open water, marsh, mudflat, oak-hickory upland hardwood forest, swamp forest and sandy barrier beach. The reserve also comprises a diverse and important assemblage of native plants and animals representative of freshwater estuaries. Common aquatic vascular plants include the American water lotus, white water lily, duckweed, sedge and arrowhead. The

extensive lotus beds provide important habitat for fish and benthic macroinvertebrates. Common fishes found in the estuary include large-mouth bass, brown bullheads, sunfish, perch, shiners and shad, many of which use the estuary as a critical spawning or nursery ground. Common birds at OWCNERR include ducks, herons, songbirds and migratory shorebirds. Several endangered or threatened species, such as the American bald eagle, use the estuary during the year. Other ecologically significant aquatic organisms found in the estuary include plankton, benthic algae, invertebrates, amphibians and turtles.

2. Reserve Administration

The ODNR's Division of Natural Areas and Preserves (DNAP) administers OWCNERR. Reserve staff carry out regular duties involving reserve research, monitoring, education, public relations and outreach. Reserve staff also conduct facilities operations and maintenance. The ODNR Director's Office, DNAP Chief, DNAP Fiscal Officer and Federal Grants Coordinator, Regional State Nature Preserve Manager, and the Reserve Manager jointly develop and implement reserve budgets, policies and capital improvement projects.

The reserve's purpose is to ensure long-term protection of the estuary and to provide for long-term research, monitoring and education. The Reserve Manager, Research Coordinator and Education Coordinator, who are all DNAP employees, administer and operate the reserve throughout the year. An administrative assistant, a facilities and equipment maintenance specialist, an office assistant, an educational assistant, two lab technicians and volunteers assist with reserve operations part-time.¹

DNAP is responsible for habitat and land management, resource protection, public access, maintenance, improvements and law enforcement at OWCNERR. A DNAP District State Nature Preserve Manager and a seasonal employee conduct these duties. The Reserve Manager and State Nature Preserve Manager coordinate each of these activities to ensure mutual awareness and achievement of both DNAP and NERRS program goals and objectives.

ODNR has consistently provided strong support for the reserve since its designation. The close ties between the reserve and its lead agency have been attributed to four primary factors: (1) staff dedication and professionalism; (2) the reserve's outstanding research and education programs, (3) reserve staff participation in other ODNR programs, and (4) DNAP's designation of OWCNERR as a State Nature Preserve, which further guarantees protection of the estuary.

¹ The administrative assistant, facilities and equipment maintenance specialist, office assistant, educational assistant and lab technicians are funded by OWCNERR's federal operations grant.

IV. ACCOMPLISHMENTS, REVIEW FINDINGS AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

1. Administration

a. Staff

OWCNERR has long been a model reserve program widely recognized for its excellence. The reserve's stature as an exemplary program is a direct result of its staff. OWCNERR and DNAP staff must be acknowledged for their tireless work, responsiveness, perseverance, creativity and dedication to the NERRS. The staff's commitment to and enthusiasm for their work have gained respect for OWCNERR both within ODNR and throughout Ohio. A clear understanding of current threats to the state's coastal resources as well as a strong focus on priority coastal issues is evident in OWCNERR's results-oriented approach to reserve management.

At the time of the evaluation site visit, the Reserve Manager was planning to retire in early 2004, after serving in his position since OWCNERR's designation in 1980. During his 23 years with the reserve, the Manager's contributions both locally to OWCNERR and nationally to the entire Reserve System cannot be overstated. His outstanding work during his tenure at OWCNERR is commendable.

The loss of institutional knowledge that occurs when key staff leave a program often complicates the transition for both remaining and new staff. Recognizing this, ODNR hired an Assistant Manager to train with the Reserve Manager well before his retirement. During the evaluation site visit, the Assistant Manager demonstrated knowledge of and comfort in his eventual position as Reserve Manager. The evaluation team has every confidence that he will continue the tradition of excellence that has distinguished OWCNERR for many years. NOAA applauds ODNR for hiring the Assistant Manager prior to the Reserve Manager's retirement.

ACCOMPLISHMENT: OWCNERR's stature as a model reserve program is a direct result of its excellent staff. NOAA commends the recently retired Reserve Manager for his outstanding work both locally and nationally. NOAA also commends ODNR for hiring an Assistant Manager prior to the departure of the Reserve Manager.

b. Position

The reserve is well positioned in the organizational structure of ODNR to accomplish its mission. As described in Section III-B-2, OWCNERR is located in the Department's Division of Natural Areas and Preserves. DNAP's Acting Chief has been a strong proponent of OWCNERR and has worked very hard on its behalf. NOAA commends her on her invaluable support. Given that OWCNERR is thriving in its current position, NOAA encourages ODNR to maintain the reserve's position in the current organizational structure of the department.

ACCOMPLISHMENT: The reserve is well positioned in the organizational structure of ODNR to accomplish its mission. NOAA commends DNAP's Acting Chief on her invaluable support for OWCNERR.

c. Finance

Financial management of the reserve has been very strong. During the evaluation period, NOAA awarded construction and operations, education and monitoring grants to OWCNERR. Staff from the reserve, DNAP and ODNR must be commended on thorough grant tracking and monitoring. At monthly or more frequent intervals as necessary, the DNAP Grants Coordinator meets with the Reserve Manager relating to the administration of any NERRS grants managed by the Division. These regular interactions have ensured a high degree of accountability related to the NERRS grants. The reserve achieved the desired results from the funded tasks and has built upon established projects.

Semi-annual performance reports as well as a final report are required for each financial assistance award. During the evaluation period, performance reports were submitted on schedule and provided necessary information. Performance reports are useful both to NOAA and to OWCNERR because they provide a consolidated source of information on accomplishments related to financial assistance awards.

ACCOMPLISHMENT: Financial management of the reserve has been very strong.

Ohio, like many other states, currently faces serious financial difficulties. As a result, state agencies have restricted employee travel. Programs within ODNR consequently have had all requests for travel carefully examined; some requests have been denied. NOAA understands the need for cost savings through measures such as limiting travel. However, given that OWCNERR is a federal-state partnership, NOAA is concerned that travel restrictions may begin to adversely impact reserve staff travel to NERRS meetings. The Reserve System holds several working meetings throughout the year that serve as important venues for system-wide planning and budgeting decisions. NOAA considers reserve staff attendance at these meetings to be critical. Thus, NOAA has made reserve staff attendance at Reserve System national meetings a condition of each operations grant, and federal funding is provided for the travel.

1. PROGRAM SUGGESTION: Given that NOAA considers reserve staff attendance at Reserve System national meetings to be of significant importance to include it as a condition of each operations grant and to provide federal funding for the travel, NOAA encourages ODNR to continue to authorize OWCNERR staff travel to these meetings.

d. Advisory Council

Each NERR has an Advisory Council that plays an important role in the federal-state partnership. OWCNERR is fortunate to have an Advisory Council composed of diverse and dedicated individuals that have done an excellent job assisting the reserve in

furthering its mission and increasing its visibility. The OWCNERR Advisory Council's purpose is to advise DNAP regarding the preparation and implementation of specific reserve plans. The Council is appointed by the ODNR Director and is composed of members representing a local government agency, a local landowner, the DNAP Natural Areas Council, a local or statewide public interest group, an agricultural institution, Ohio educational institutions, and a Great Lakes research institution.

Advisory Council members serve on a volunteer basis and are appointed to staggered three-year terms; they may be reappointed to consecutive terms. The Council selects a chairperson and vice chairperson and may form and disband committees as the majority chooses. The Council meets at OWCNERR with appropriate members of reserve and DNAP staff at quarterly intervals. A majority quorum is required to conduct Council business.

Reserve and DNAP staff provide the Council with reports and data regarding reserve management, education and research activities for the period between each meeting. Special Council and committee meetings are called as necessary. The Council advises the Reserve Manager and DNAP Chief with recommendations resulting from each meeting. The Council also represents OWCNERR and solicits support for reserve programs from outside agencies, educational institutions, legislators and the public. Additionally, the Council assists reserve staff during conferences and other public events.

During the site visit, the DNAP Acting Chief noted that the OWCNERR Advisory Council was due for evaluation by the Ohio Sunset Review Committee, which periodically reviews all boards, commissions, committees, councils and similar public bodies established under state law for the exercise of any function of state government and to which members are appointed or elected. The DNAP Acting Chief also noted that ODNR requested that the OWCNERR Advisory Council be maintained, given the significance of its role in the reserve's federal-state partnership. NOAA commends the Advisory Council on its work and encourages the Ohio Sunset Review Committee to retain this important group.²

ACCOMPLISHMENT: OWCNERR's Advisory Council has done an excellent job assisting the reserve in furthering its mission and increasing its visibility.

2. Management Plan

NOAA applauds OWCNERR for completion of its revised management plan. Reserve management plans are used to guide reserve operations and to provide the basic framework for all reserve activities. NERRS regulations call for management plans to be updated every five years. During the evaluation period, OWCNERR worked extensively to update its management plan, completing it in December 1999. The new plan is the third edition of the document since the original was approved in 1983. The original management plan established the reserve's basic management structure and described

² Following its review, the Sunset Review Committee did not make any recommendations regarding the OWCNERR Advisory Council, which will be maintained in its current form.

initial plans for: (1) natural resource management and protection, (2) reserve operations, and (3) facilities development. The revised management plan represents a blueprint for the future. It includes the reserve's mission, goals and objectives and establishes policies that protect its natural resources and ecological integrity. The revised management plan provides guidance for administration of reserve operations, management, research, education and public outreach through 2004. It also describes necessary elements of site ecological management in order to: (1) identify key natural resources, (2) determine the appropriate level of human use for resources and sites, and (3) foster long-term resource protection. NOAA is impressed with the dedication and effort that went into revising the management plan and the resultant high quality of the final document.

ACCOMPLISHMENT: NOAA applauds OWCNERR for completion of its revised management plan.

3. Facilities

During the evaluation period, a great deal of staff time and effort were spent on OWCNERR's first major capital improvement in 15 years. The reserve's original, multipurpose facility was constructed in phases between 1982 and 1986. The Visitors' Center contained administrative offices, laboratories, classrooms, permanent exhibits and a reference library. A dormitory allowed students to spend extended periods of time conducting research, and a variety of groups also used it for meetings and workshops. As noted in the previous evaluation findings released in 1998, OWCNERR facilities were well used and impeccably maintained. However, as the reserve and its programs evolved, available space in the Visitors' Center rapidly diminished. Between 1986 and 2000, annual visitation to the reserve more than tripled from 13,000 to 40,000. Additionally, increased demands for space in order to conduct tasks associated with the NERRS System-wide Monitoring Program (SWMP) led the reserve to remodel an existing classroom into laboratory space. This decreased available work space for education staff and program participants engaged in workshops and related activities.

As a result of OWCNERR's significant need for increased space, both ODNR and NOAA provided funds to the reserve to upgrade its facilities with: (1) space to accommodate temporary exhibits of local and regional interest; (2) a place for staff and volunteers to greet and interact with visitors; and (3) an additional restroom for use during periods of high visitation or on-site programming.³ The reserve also undertook additional facilities improvements that include new administrative offices and a conference room, a library expansion, a new wildlife viewing area and boathouse, and a new long-term use dormitory.⁴ Green building methods and materials were used

³ The majority of OWCNERR's facilities upgrade was financed with state funds through the Ohio NatureWorks Program, which is a voter-approved bond issue. ODNR provided \$821,263 and NOAA provided \$320,000 for the improvements.

⁴ Prior to the construction of the new dormitory, long-term researchers had been housed in an old beach cottage, which was located in the floodplain. Thus, during the new construction, the cottage was demolished and a new, long-term dormitory was built immediately adjacent to the original dormitory.

extensively throughout the construction project, which incorporated recycled materials, pervious surfaces and sustainable products.

Examples include:

- High fly ash content for all concrete used during remodeling
- Certified “green” wallboard
- Organic-based shingles for all roofing projects
- Recycled wallpaper in the new conference room
- Cellulose insulation in all new wall construction
- Sustainable lumber for the ceiling deck at the Visitors’ Center and dormitory additions
- Geothermal heating and cooling in the Visitors’ Center addition
- Compact fluorescent bulbs for new lighting and the exhibit room’s replacement track lighting
- Clay pavers for the exterior walkways at the Visitors’ Center and dormitory
- Grasspave® for one-third of the parking lot at the Visitors’ Center
- Gravelpave® for the parking lot at the boathouse



The renovated Visitor’s Center at the reserve.

OWCNERR’s renovated Visitors’ Center and dormitory are premium green facilities. These state of the art buildings provide both NOAA and ODNR an excellent opportunity to showcase their combined efforts towards achieving sustainable coastal communities. Recognizing that the design and construction of green buildings is an interesting topic to many in the surrounding community, OWCNERR has incorporated lessons learned during its recent renovations into an exhibit in the Visitors’ Center. The reserve has also developed a brochure, “Designing a Greener Building,”⁵ that provides visitors with brief descriptions of many environmentally friendly building materials and construction technologies. NOAA applauds the reserve’s outstanding efforts to renovate its facilities using green materials and construction technology.

ACCOMPLISHMENT: OWCNERR’s renovated Visitors’ Center and new, long-term use dormitory are premium green facilities that provide an excellent opportunity to showcase efforts towards achieving sustainable coastal communities.

⁵ The “Designing a Greener Building” brochure may be downloaded from <http://www.oldwomancreek.org>.

4. Visibility

New facilities, research projects and education activities have enhanced the reserve's public visibility during the review period, as evidenced by the significant increase in visitation. The reserve's facilities, programs and management have also increased its visibility among ODNR leadership. NOAA commends OWCNERR for its efforts to improve visibility and encourages continuation of these efforts.

ACCOMPLISHMENT: OWCNERR has strong public visibility.

5. Program Coordination

a. Internal Programs

Both OWCNERR's Research and Monitoring Program and Education and Outreach Program are well established and very strong.⁶ However, each of these programs has few interactions with the other; they are essentially on separate tracks. During the site visit, the evaluation team failed to see the linkages between the two programs that are essential to the reserve's mission of conducting research and translating it to the public. The Research and Monitoring Program is currently engaged in a broad range of excellent research projects. It is very important to get the results of those projects to the community in general and to coastal decision-makers in particular. NOAA strongly encourages OWCNERR to examine ways to increase linkages between its Research and Monitoring Program and its Education and Outreach Program. For example, the evaluation team noted that the Research Coordinator spends a great deal of time on SWMP. A well-trained technician could perform many of the duties associated with SWMP, which would allow the Research Coordinator to spend more time collaborating with the Education and Outreach Program.

2. PROGRAM SUGGESTION: NOAA strongly encourages OWCNERR to foster increased linkages between its Research and Monitoring Program and its Education and Outreach Program.

b. External Programs

OWCNERR has continued to coordinate with the Ohio Coastal Management Program (OCMP) and Ohio Sea Grant. As explained by the OCMP Manager, the coastal program needs sound science upon which to base policy decisions. The program also benefits greatly from efforts to educate coastal decision-makers. Given the missions of OWCNERR and Ohio Sea Grant and the needs identified by OCMP, these three programs are natural partners in many ways and collaborate on a variety of programs and activities. For example, during the evaluation site visit, the reserve, OCMP and Ohio Sea Grant were working together to hire a Coastal Training Program (CTP) Coordinator,

⁶ Please see sections IV-B and IV-C for thorough descriptions of these programs.

envisioning that the position would benefit all three programs.⁷ NOAA commends OWCNERR for its collaborative work with OCMP and Ohio Sea Grant and encourages the reserve to continue these efforts as practicable.

ACCOMPLISHMENT: OWCNERR has worked collaboratively with OCMP and Ohio Sea Grant on a variety of programs and activities.

B. RESEARCH AND MONITORING PROGRAM

OWCNERR has a very strong Research and Monitoring Program. At the time of the site visit, the reserve had approximately 15 research projects underway. A key factor contributing to the success of the Research and Monitoring Program is that DNAP provides law enforcement based on state nature preserve rules and regulations and visibility that ensure the estuary is a stable platform for research. Potential conflicts with incompatible uses of the estuary currently are not an issue at OWCNERR.

The goals of OWCNERR's Research and Monitoring Program are to: (1) develop a comprehensive scientific understanding of natural and anthropogenic processes occurring within the estuary, watershed and adjacent Lake Erie, and (2) provide necessary information for proper management, use and restoration of freshwater estuaries and other coastal areas within the Great Lakes region. In order to achieve these goals, the reserve has developed the following objectives:

- Conduct baseline research to characterize flora and fauna within the reserve and to determine ecological interrelationships among organisms and their habitats as well as to determine any anthropogenic impacts;
- Develop a better understanding of tributary water quality conditions, requirements for growth and survival of living resources, and the effects of both point and nonpoint source pollution;
- Develop an improved understanding of physical processes within the estuary;
- Define the many functions performed by freshwater estuaries and other coastal wetlands within the Great Lakes region;
- Encourage and support field researchers to disseminate information to the academic, scientific and coastal management communities;
- Facilitate studies that make effective use of past research and that address data gaps in the reserve's information base; and
- Provide the public and coastal decision-makers with the information necessary for sound coastal zone management strategies, particularly regarding wetlands, within the Great Lakes.

Appropriate facilities and equipment are important components of a strong Research and Monitoring Program. The laboratory facilities at OWCNERR incorporate a number of specialized facilities while providing flexibility to accommodate future research

⁷ OWCNERR and DNAP have been working on the CTP Coordinator Position and intend to fill the position as a project employee in the fall of 2004.

requirements. A small, well-equipped analytical chemistry laboratory is available for general nutrient and metals chemistry. The facility includes a low-level radioisotope lab, a small lab equipped for microbiological work and a wet lab. A microscope and balance room is also accessible. A general lab area allows for the accommodation of future research requirements. In addition to OWCNERR's lab facilities, the on-site dormitories provide the reserve with a strong competitive advantage in recruiting researchers.

1. Ties with Universities

In addition to the availability of modern facilities and equipment, the interest of prospective researchers is critical to a successful Research and Monitoring Program. During the site visit, the evaluation team clearly saw an abundance of such interest from researchers at universities throughout Ohio. Visiting researchers from schools such as Antioch University, Case Western Reserve University, The Ohio State University, Miami University - Ohio, John Carroll University, University of Akron, Heidelberg College and Wittenberg University have all used OWCNERR's research facilities. Many professors bring their classes to the reserve for field work, citing the convenience of the dormitory facilities for overnight visits and the exceptional staff at the reserve. During the site visit, several professors who conduct research at the reserve requested time to speak to the evaluation team. The professors had uniformly high praise for the reserve as a research site. Among their many reasons for choosing to conduct research at OWCNERR was the Research Coordinator's professionalism, facilitation skills, expertise and willingness to help far in excess of what is expected. The professors noted that the reserve's long-term monitoring capacity and availability of extensive historical data sets are very valuable in securing outside funding. They also referred to logistical support from other members of the reserve staff, the ability to bring management and education perspectives to research conducted at the reserve, and the reserve's strong outreach to universities throughout Ohio as reasons for repeatedly returning to OWCNERR to conduct research. NOAA applauds the reserve's Research and Monitoring Program for its work with and support to universities across Ohio and encourages it to continue such work.

ACCOMPLISHMENT: OWCNERR's Research and Monitoring Program has excellent ties with universities throughout Ohio. Researchers choose the reserve as a research site not only because OWCNERR is an interesting estuary scientifically, but also for the superior facilities and services available to them at the reserve.

2. Research and Monitoring Program Visibility

OWCNERR's Research and Monitoring Program has strong visibility. Much of this visibility is achieved by word of mouth, which has been quite successful in drawing researchers to the reserve. Researchers' positive experiences at OWCNERR encourage them to return in the future and to promote the reserve as a prime research site to their colleagues. Additionally, the Research and Monitoring Program has completed research briefs that summarize each completed research project and its importance to coastal ecology, management and sustainable development. Research staff also host "Meet the Scientist" open house events and research oriented classes related to coastal wetlands.

NOAA commends the Research and Monitoring Program for its efforts to maintain and heighten visibility.

ACCOMPLISHMENT: OWCNERR's Research and Monitoring Program has strong visibility.

3. System-wide Monitoring Program (SWMP)

As noted above, participation in and contribution to system-wide efforts such as planning, development and implementation are important aspects of being part of the NERRS. National programs and initiatives are developed in collaboration with all reserves and NOAA. One example of a system-wide effort is the National SWMP. The goal of SWMP is to identify and track short-term variability and long-term changes in estuarine water quality, habitat and land use in each reserve. The data gathered through SWMP provides information about how estuaries function and change over time, enabling scientists to predict how these systems will respond to anthropogenic changes.

SWMP provides critically needed, standardized information on national estuarine environmental trends while allowing the flexibility to assess coastal environmental management issues of regional or local concern. This program is designed to enhance the value and vision of the NERRS as a system of national reference sites. The program has three components and a phased approach to implementation. The three components are:

- (1) **Abiotic Variables:** The NERRS-SWMP currently measures pH, conductivity, temperature, dissolved oxygen, turbidity, water level and atmospheric conditions. In addition, the program collects monthly nutrient and chlorophyll samples and monthly diel samples at one SWMP data logger station. Each reserve uses a set of automated instruments and weather stations to collect these data for submission to a centralized data management office.
- (2) **Biotic Variables:** The reserve system will incorporate monitoring of organisms and habitats into the SWMP as funds become available. The first aspect likely to be incorporated will quantify vegetation (e.g., marsh vegetation, submerged aquatic vegetation) patterns and their change over space and time. Other aspects that could be incorporated include monitoring infaunal benthic communities and plankton communities.
- (3) **Habitat Mapping and Change:** This component of SWMP will be developed to identify changes in coastal ecological conditions with the goal of tracking and evaluating changes in coastal habitats and watershed land use. The main objective of this element will be to examine the links between watershed land use activities and coastal habitat quality.

OWCNERR has four data loggers measuring water level, pH, temperature, conductivity, dissolved oxygen and turbidity deployed from mid-March through November. The

purpose of the deployment pattern is to examine the role of the estuary in mitigating storm water as it passes through the estuary and into Lake Erie. The data loggers are retrieved, cleaned, calibrated and repositioned in the estuary on a bi-weekly basis. Samples for nutrient and chlorophyll analysis are collected in duplicate at each of the four data logger sites every time the data loggers are changed. Additional samples are collected at one of the data logger sites each month at two-hour intervals over a 26-hour period for nutrient and chlorophyll analysis. An automated on-site weather station collects meteorological parameters including air temperature, wind speed, wind direction, relative humidity, barometric pressure, photosynthetically active radiation and precipitation at 15 minute intervals for the entire year. All data is submitted to the Centralized Data Management Office at Baruch Marine Laboratory in South Carolina for inclusion in the national NERRS database. NOAA commends the Research and Monitoring Program for fulfilling its SWMP requirements by successfully implementing the program and submitting all data to the Centralized Data Management Office.

ACCOMPLISHMENT: OWCNERR's Research and Monitoring Program is fulfilling its SWMP requirements by successfully implementing the program and submitting all data to the Centralized Data Management Office.

4. Geographic Information Systems

The Protected Areas Geographic Information System was developed to help support the SWMP as well as other NERRS' site management and education needs. In collaboration with the Cooperative Institute for Coastal and Estuarine Environmental Technology and NOAA's Coastal Services Center (CSC), desktop computer hardware and Geographic Information System (GIS) software were provided for each reserve in 1998. The reserve's Research Coordinator has received basic training in the use of desktop GIS and ArcView software provided by CSC personnel.

At the time of the site visit, OWCNERR was working collaboratively with OCMP to develop a GIS position that would be shared between the two programs. The GIS technician will be located at both the OCMP and the OWCNERR offices based on a predetermined schedule. NOAA encourages OWCNERR to use GIS to support and enhance not only its Research and Monitoring Program, but also its Education and Outreach Program and its Stewardship Program.

5. Site Profile

NERRS implementing regulations require each reserve to develop a comprehensive site profile. At the time of the evaluation site visit, OWCNERR's site profile was undergoing final review. The purposes of OWCNERR's site profile are to provide an overview of what has been learned about the Old Woman Creek estuary during the past two decades and to present concepts that can be transferred to other estuarine and coastal wetland environments throughout the Great Lakes. To achieve these objectives, the site profile is designed to: (1) compile scientific datasets relating to the reserve, (2) characterize the physical and biotic components of the environment, (3) synthesize the known ecological

relationships within the reserve and its watershed, (4) trace the impact of natural and human disturbances, and (5) explore the need for future research, education and management initiatives. OWCNERR's site profile is extremely well written and comprehensive. NOAA commends the Research and Monitoring Program for developing an exceptional site profile.

ACCOMPLISHMENT: OWCNERR's site profile is extremely well written and comprehensive.

6. Graduate Research Fellowships

The NERRS Graduate Research Fellowship (GRF) program supports management related research projects that enhance scientific understanding of the reserve system, provides information needed by reserve managers and coastal decision-makers, and improves public awareness and understanding of estuarine ecosystems and management issues.

GRF funds are available on a competitive basis to students enrolled in a full-time Masters or Doctoral program at accredited colleges and universities in the U.S. Fellowships may be funded for up to three years. Applicants must address one of the nationally significant research priorities established by the NERRS and conduct research in one or more of the reserves. Research priorities include:

- (1) The effects of nonpoint source pollution on estuarine ecosystems and the role of estuarine ecosystems in mitigating this pollution;
- (2) Evaluative criteria and/or methods for estuarine ecosystem restoration;
- (3) The importance of biodiversity and the effects of invasive species on estuarine ecosystems;
- (4) Mechanisms for sustaining resources within estuarine ecosystems; and
- (5) Socioeconomic research on estuarine ecosystems.

Potential GRFs have displayed a strong interest in OWCNERR, and the reserve has had excellent fellows during the review period. Graduate Research Fellowship projects at the reserve have ranged from developing a GIS model to examine best management practices in the Old Woman Creek watershed to examining Atrazine levels in channel catfish and yellow perch and its impact on these two species. NOAA commends the Research and Monitoring Program for attracting strong GRFs both to the fellowship program and to the reserve.

ACCOMPLISHMENT: OWCNERR's Research and Monitoring Program has attracted strong GRFs both to the fellowship program and to the reserve.

C. EDUCATION AND OUTREACH PROGRAM

OWCNERR has a very strong Education and Outreach Program that offers Lake Erie's coastal residents and visitors excellent opportunities to learn about the Old Woman Creek

estuary and its wetlands. Even though on-site education programs were curtailed during facilities construction, over 5,500 people participated in more than 150 programs and tours during 2002 and 2003. Most of these programs were conducted by OWCNERR's Education Assistant. Participants included teachers, students, members of the general public and residents of the watershed.

The primary goal of OWCNERR's Education and Outreach Program is to enhance public awareness, understanding and stewardship of estuarine and wetland resources in the reserve, watershed and other coastal areas. In order to achieve this goal, the reserve has developed the following objectives:

- Promote increased knowledge of the reserve's resources and programs, as well as broader coastal issues and concerns related to estuarine management and protection;
- Increase public awareness of the NERRS and OWCNERR;
- Provide information and training opportunities to coastal managers and others charged with developing and implementing coastal management strategies;
- Provide opportunities for teacher training, student projects, internships and assistantships where participants gain field experience by working with scientists and educators;
- Encourage partnerships and citizen involvement in activities that foster individual responsibility and stewardship of estuarine and watershed resources;
- Collaborate with other organizations to provide educational and interpretive services; and
- Develop OWCNERR as a regional repository for Great Lakes coastal wetlands information.

Appropriate facilities and equipment are as important for a successful Education and Outreach Program as they are for a successful Research and Monitoring Program. The renovated Visitors' Center has provided additional space for educational programs ranging from audio-visual presentations to guest lectures, educator workshops and technical training seminars for coastal management professionals. Additionally, the reserve has a resource library containing a collection of reference volumes such as field guides, identification manuals, scientific journals, abstracts of regional research and materials related to a wide variety of coastal management issues. The library also houses a selection of educational reference and curriculum materials that have been collected from other reserves, Sea Grant programs, aquaria and marine science centers throughout the country, regional organizations and other institutions. The Firelands Audubon Society collection also is maintained in the library and includes the *Birds of North America* series. All library collections are cataloged and available for in-house use by educators and others upon request.

1. Coastal Decision-maker Workshops

OWCNERR's Education Coordinator plans, develops and implements a variety of Coastal Decision-maker Workshops (CDMWs) each year. CDMWs are an important

aspect of OWCNERR's Education and Outreach Program that provide current environmental information to decision-makers. The CDMWs have proven to be highly effective in conveying scientific information about priority environmental issues to government officials, policy-makers and the public. One such workshop, "Integrating the Human Dimension into Coastal Decision-making," attracted 40 participants from 11 states and 25 different agencies. A focus group was convened the next day to evaluate the workshop and to determine needs for training in social science issues for marine protected areas managers throughout the country. Several reserve managers participated in the workshop. As a result of the workshop and the focus group recommendations, OWCNERR continued to work with NOAA's Coastal Services Center to develop tools and training opportunities that address the human dimensions of coastal management.

Other CDMWs conducted at OWCNERR include: (1) Promoting avitourism as a sustainable approach for Lake Erie coastal communities; (2) Status, trend and monitoring techniques for neotropical migratory birds in Ohio and Central America; and (3) Invasive plants in Ohio, with an emphasis on Lake Erie coastal counties. CDMWs at the reserve have also provided in-service training and long-range planning opportunities for 100 natural, cultural and historical site managers as part of the Lake Erie Coastal Ohio Project, described in Section IV-C-3-a.

NOAA applauds the Education and Outreach Program's efforts to target diverse audiences with its CDMWs. The Education and Outreach Program has offered outstanding workshops not only to coastal decision-makers, but also to community leaders, teachers, researchers and the general public. NOAA encourages the Education and Outreach Program to continue offering CDMWs focusing on timely and significant issues to a wide variety of audiences.

ACCOMPLISHMENT: OWCNERR's Education and Outreach Program has offered outstanding CDMWs to a wide variety of audiences.

2. Coastal Training Program

Another important aspect of a reserve's Education and Outreach Program is the CTP, which builds upon the success and experience of the CDMWs. The CTP is designed to inform decision-making to improve coastal stewardship at local and regional levels by increasing the application of science-based knowledge and skills by local and regional coastal decision-makers, and to increase dialogue and collaboration among these decision-makers. Planning for the program includes establishing a training advisory committee, conducting a market survey of training providers and an audience needs assessment, developing a program strategy that outlines priority coastal issues to be addressed during the next three to five years, and prioritizing audiences the reserve plans to target with relevant programs, as well as a marketing plan.

NOAA commends OWCNERR's Education Coordinator for her continued collaboration with the OCMP and Ohio Sea Grant to develop a CTP for Ohio. Cleveland State University's Maxine Goodman Levin College of Urban Affairs was contracted to conduct

a market analysis of the current coastal training environment in Ohio. The report catalogues the suppliers of coastal resource management training and education in Ohio; identifies “gaps” or disparities currently existing in the market; and discusses recommendations on methods to address the identified gaps. OWCNERR also contracted with Cleveland State University to conduct a coastal training needs assessment. The needs assessment expands and builds upon the findings of the Coastal Training Market Analysis by evaluating the training needs and skill requirements of coastal decision-makers.

The findings of the coastal training market analysis and needs assessment will provide the basis for a strategy document and an implementation plan that will guide the reserve and its partners in the development of an integrated coastal management training service in Ohio. During the evaluation site visit, the Education Coordinator indicated that the reserve was taking a deliberate approach to the CTP, and that additional funding had not been requested in federal fiscal year 2002 so that strategic planning could be completed. NOAA applauds the Education and Outreach Program for its work to complete a coastal training market analysis and needs assessment and encourages it to continue development of the CTP.

ACCOMPLISHMENT: OWCNERR’s Education and Outreach Program has collaborated with OCMP and Ohio Sea Grant during the initial development phase of the CTP. It has also produced a strong coastal training market analysis and needs assessment.

3. Special Projects

a. Lake Erie Coastal Ohio

During the review period, OWCNERR’s Education Coordinator worked closely with tourism officials and natural resource management agencies to develop “Lake Erie Coastal Ohio” (LECO), a nonprofit organization designed to promote natural, cultural and historical tourism in the Lake Erie coastal region. One of LECO’s primary goals is to support the protection of coastal resources by demonstrating their economic value to local and state decision-makers. The seven visitor and convention bureaus bordering Lake Erie and the Ohio Department of Development funded creation of a ten-year plan to guide the growth of heritage tourism⁸ along the coast of Lake Erie. The reserve Education Coordinator assisted with the development of the plan, which also includes an educational component that stresses responsible stewardship of Ohio’s coastal resources. Versions of the plan were presented to stakeholders and the public throughout 2001. In early 2002, LECO was incorporated, an Executive Director was hired, and a regional board was established. Priorities for LECO have included developing a web site, seeking permanent funding, developing a marketing plan, pursuing Scenic Byway designation, and working with site managers to identify needs and to create an interpretive framework.

⁸ Heritage tourism combines the natural, cultural and historical assets of a region into a single product. The national definition of heritage tourism is “traveling to experience the places and activities that authentically represent the people and stories of the past.”

OWCNERR will serve as one of the main portal sites for the project and has provided training for coastal site managers and educators. The reserve Education Coordinator has also worked with the LECO Executive Director to develop interpretive training modules for tourism related businesses and LECO site staff. NOAA commends OWCNERR for its work with LECO.

b. “Birds with Two Homes” International Education Project

OWCNERR, DNAP and the Belize Audubon Society have collaborated on an international education project to address the loss of habitat and subsequent decline of neotropical migratory bird populations in the United States and Central America. The reserve’s Education Coordinator initiated the project, which provides educational materials and in-service training for resource managers, educators and tourism officials in Ohio and Belize on topics related to migratory bird conservation. A dynamic partnership with the Crooked Tree Wildlife Sanctuary and four partner schools in Belize has resulted in students and teachers from both countries sharing classroom activities and pen pal letters.

OWCNERR has hosted both teachers and Audubon Society staff from Belize as part of this ongoing project. The Education Assistant has accompanied the teachers during visits to their partner schools in Huron, Ohio, and has presented classroom lessons on Belizean culture and natural history. The reserve has also coordinated efforts to collect textbooks and classroom supplies for its partner schools in Belize. Additionally, the Friends of Old Woman Creek, Inc. provided funding for four Huron teachers to participate in a staff-exchange visit to Belize schools and communities in early 2003. NOAA applauds OWCNERR for its commitment to this valuable partnership.

ACCOMPLISHMENT: OWCNERR’s Education and Outreach Program has initiated and facilitated innovative special projects that employ unique partnerships and methods to address significant coastal resource issues while raising the public’s awareness of the reserve.

4. Volunteer Program

Historically, volunteers at OWCNERR have provided critical support for reserve operations and programming. Reserve volunteers have assisted permanent staff with: (1) operating the Visitors’ Center, (2) performing administrative tasks, (3) assisting with facility maintenance and public access improvement projects, (4) assisting with research and monitoring projects, (5) providing staff support for programming, workshops and special projects, and (6) serving as Advisory Council members. OWCNERR volunteers attend orientation meetings, receive a volunteer handbook and attend special training sessions throughout the year.

During OWCNERR’s construction phase, reserve facilities frequently were closed to all but essential staff. Thus, the reserve’s Volunteer Program was largely inactive during the latter part of the review period. Given that volunteers can be a significant asset to reserve

operations and programming, NOAA encourages OWCNERR to reinvigorate its Volunteer Program as soon as practicable.

3. PROGRAM SUGGESTION: Given that reserve volunteers historically have provided significant support for reserve operations and programming, NOAA encourages OWCNERR to reinvigorate its Volunteer Program as soon as practicable.

D. STEWARDSHIP PROGRAM

During the last few years, the NERRS has focused on developing a stewardship component to complement its existing research and education programs. The primary goal of OWCNERR's Stewardship Program is to protect the natural integrity of the estuarine ecosystem within the reserve. The Stewardship Program also seeks to protect the estuarine ecosystem beyond the reserve's boundaries to the greatest extent possible. In order to achieve these goals, the reserve has developed the following objectives:

- Enforce laws, rules, regulations and policies pertaining to preserve uses and restrictions as well as ensure coordination of enforcement activities between DNAP and the reserve;
- Preserve biodiversity and prevent degradation of resources;
- Monitor any ecological impacts resulting from invasions of exotic species, meteorological and hydrological changes, and other events;
- Monitor land use changes in the Old Woman Creek watershed, particularly agricultural, urban and commercial development;
- Recommend actions and techniques to prevent point and nonpoint source pollution; and
- Provide for public participation as a means to promote compatible uses of the reserve and awareness of the need to protect sensitive resources.

During the review period, OWCNERR made progress developing its Stewardship Program. A DNAP Preserve Manager currently serves as the reserve's Stewardship Coordinator. A significant focus area for OWCNERR's Stewardship Coordinator is exotic and invasive species control. The Stewardship Coordinator monitors vegetative transects for problem plant species such as purple loosestrife (*Lythrum Salicaria*) and the common reed (*Phragmites* spp.). Mechanical removal and limited chemical applications are employed to control exotic and invasive plants within the reserve.

ACCOMPLISHMENT: OWCNERR made progress in developing its Stewardship Program during the review period.

While the Stewardship Program clearly made progress during the review period, it could be strengthened. Because the Stewardship Coordinator is a DNAP Preserve Manager, he is responsible for resource stewardship at six state nature preserves in the region. Given these responsibilities, the time that he is able to commit to OWCNERR is necessarily

quite limited.⁹ Additionally, prior to the evaluation site visit, the reserve lost a part-time watershed stewardship and outreach person. Consequently, the Stewardship Program currently lacks the human interaction element that comes from working with the public. In the past, OWCNERR has engaged in stewardship outreach activities designed to promote citizen action toward protecting and sustaining coastal resources. Streambank stabilization, beach clean-up and precision farming demonstration projects have all provided avenues for the local community to become directly involved in coastal stewardship. NOAA encourages OWCNERR to reintroduce the element of human interaction into its Stewardship Program.

4. PROGRAM SUGGESTION: NOAA recommends that OWCNERR consider expanding its Stewardship Program by: (1) examining potential ways to increase the amount of time that the Stewardship Coordinator is able to devote to the reserve; and (2) engaging a part-time employee or volunteers to develop the Stewardship Program's human interaction element through stewardship outreach activities.

⁹ While DNAP has indicated that, due to budget constraints, it is unable to support the creation of a permanent stewardship coordinator in the state's fiscal year 2005 budget, it has authorized the creation of a position in fiscal year 2006 and has requested funding in OWCNERR's upcoming federal grant.

V. CONCLUSION

For the reasons stated herein, I find that Ohio is adhering to the programmatic requirements of the NERRS in the operation of its approved OWCNERR.

These evaluation findings contain four recommendations. These recommendations are in the form of Program Suggestions that ODNR should consider prior to the next regularly scheduled program evaluation, but they are not mandatory at this time. Program Suggestions that must be repeated in subsequent evaluations may be elevated to Necessary Actions. Summary tables of program accomplishments and recommendations are provided in the Executive Summary.

This is a programmatic evaluation of OWCNERR that may have implications regarding the state's financial assistance awards. However, it does not make any judgment on or replace any financial audits related to the allowability or allocability of any costs incurred.

Eldon Hout
Director

Date

VI. APPENDICES

APPENDIX A. RESPONSE TO 1998 EVALUATION FINDINGS

1. PROGRAM SUGGESTION: ODNR and OWCNERR should consider hiring a permanent Administrative Assistant to assist with the day-to-day needs generated by the public. Some tasks that could be performed include answering telephones, providing directions, and answering routine questions. Other staff needs include a full-time Volunteer Coordinator, Education Assistant and Research Assistant, and ODNR and OWCNERR are encouraged to consider recruiting these types of staff.

During the evaluation period, OWCNERR hired an Administrative Assistant, Education Assistant and Research Assistants. An existing staff member assumed the role of Volunteer Coordinator.

2. NECESSARY ACTION: OWCNERR must complete the revision of its management plan as required by the NERRS regulations. The state must submit the final revised management plan, in approvable form for public review and comment, within one year of receipt of final findings.

Please refer to section IV-A-2 of this document for a description of OWCNERR's response to this Necessary Action.

3. PROGRAM SUGGESTION: ODNR and OWCNERR are encouraged to develop a facilities needs plan and a funding strategy to increase facility space at the Visitors' Center and beach cottage.

Please refer to section IV-A-3 of this document for a description of OWCNERR's response to this Program Suggestion.

4. PROGRAM SUGGESTION: ODNR and OWCNERR are encouraged to develop specific public access plans for the reserve and to provide adequate surveillance if the public hours are expanded. They are also encouraged to provide property insurance to protect the long-term investment that has been made at OWC.

A thorough public access plan is included in the reserve's revised management plan. OWCNERR is currently reassessing surveillance, which is a shared responsibility between ODNR and the reserve. OWCNERR carries insurance on the contents of its facilities.

5. PROGRAM SUGGESTION: ODNR and OWCNERR are encouraged to develop a land acquisition plan and funding strategy to acquire key buffer lands for inclusion in the reserve.

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OWCNERR has developed a prioritized acquisition plan. During the review period, the reserve purchased three acres of land fee simple and negotiated easements on six subdivision lots in “Huron Green.” OWCNERR has also worked with OCMP to develop Ohio’s Coastal and Estuarine Land Conservation Program Plan.

APPENDIX B. PERSONS AND INSTITUTIONS CONTACTED

Old Woman Creek National Estuarine Research Reserve Representatives

Name	Title	Affiliation
Marje Bernhardt	Volunteer Coordinator	OWCNERR
Linda Feix	Education Coordinator	OWCNERR
David Klarer	Research Coordinator	OWCNERR
Frank Lopez	Assistant Reserve Manager	OWCNERR
John McFadden	Stewardship Coordinator	OWCNERR
Gloria Pasterak	Administrative Assistant	OWCNERR
Phoebe VanZoest	Education Assistant	OWCNERR
Gene Wright	Reserve Manager	OWCNERR

OWCNERR Advisory Council Representatives

Name	Title	Affiliation
Robert Beidler	Watershed Landowner	Oberlin Beach Association
Herb Chapin	Office Manager and Relocation Director	Century 21 Realtors
Steve Deehr	Board Supervisor	Erie County Soil and Water Conservation Association
Dr. Robert Heath	Professor of Biological Sciences	Kent State University
Floren James	Extension Service (Retired)	The Ohio State University
Dr. Ken Krieger	Scientist, Water Quality Laboratory	Heidelberg College
Jane Miller	Member	North Central Erie County League of Women Voters
Dr. Jeff Reutter	Director	Ohio Sea Grant and Stone Laboratory
Tom Stockdale	Professor of Fisheries (Retired)	The Ohio State University
Bert Szabo	Chief Naturalist (Retired)	Akron Metroparks

State of Ohio Representatives

Name	Title	Affiliation
David Mackey	Program Manager	OCMP
Mickey Nygaard	Grants Officer	ODNR's DNAP
Samuel Speck	Director	ODNR
Nancy Strayer	Acting Chief	ODNR's DNAP

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Academic Representatives

Name	Title	Affiliation
Betsy Barenklau	Teacher	McCormick Middle School
Joe Holomuzki	Professor	The Ohio State University at Mansfield
Peter Lavrentyev	Professor	University of Akron
Robert Whyte	Executive Director	Glen Helen Ecology Inst., Antioch University

Nongovernmental Organization Representatives

Name	Title	Affiliation
Melinda Huntley	Executive Director	Lake Erie Coastal Ohio

APPENDIX C. PERSONS ATTENDING THE PUBLIC MEETING

Name	Affiliation
Glen Bernhardt	Community Member
Cindy Carruthers	OWCNERR Volunteer
Dennis Fligor	Office of Senator Voinovich
Pat and John Krebs	OWCNERR Volunteers
Phyllis Miller	Community Member
Andy Overly	Community Member
Sandra Wright	OWCNERR Volunteer